

Claims

- [c1] 1. A method of providing for sensing an occupant in a seat, wherein said seat incorporates a conductive heating element, said method comprising:
- a) placing a first electrode between said heating element and a seating region of said seat;
 - b) placing a second electrode between said heating element and said first electrode;
 - c) providing for operatively coupling a first signal to said first electrode; and
 - d) providing for operatively coupling a second signal to said second electrode, wherein said first signal is an oscillating or pulsed signal, and said second signal is substantially equal to said first signal.
- [c2] 2. A method of providing for sensing an occupant in a seat as recited in claim 1, further comprising:
- e) placing an electrode proximate to a side of said heating element away from the seating region of said seat; and
 - f) providing for operatively coupling said second signal to said electrode.
- [c3] 3. A method of providing for sensing an occupant in a

seat as recited in claim 1, wherein said second electrode comprises a sheath at least partially around at least a portion of said heating element.

- [c4] 4. A method of providing for sensing an occupant in a seat as recited in claim 1, wherein said operation of operatively coupling said first signal comprises AC coupling.
- [c5] 5. A method of providing for sensing an occupant in a seat as recited in claim 1, wherein said operation of operatively coupling said second signal comprises AC coupling.
- [c6] 6. A method of providing for sensing an occupant in a seat as recited in claim 1, further comprising providing for sensing the occupant from a response to said first signal.
- [c7] 7. A method of sensing an occupant in a seat, wherein said seat incorporates a conductive heating element, said method comprising:
 - a) placing a first electrode between said heating element and a seating region of said seat;
 - b) placing a second electrode between said heating element and said first electrode;
 - c) operatively coupling a first signal to said first elec-

trode;

d) operatively coupling a second signal to said second electrode, wherein said first signal is an oscillating or pulsed signal, and said second signal is substantially equal to said first signal; and

e) sensing a response to said first signal.

[c8] 8. A method of sensing an occupant in a seat as recited in claim 7, further comprising:

f) placing an electrode proximate to a side of said heating element away from the seating region of said seat; and

g) operatively coupling said second signal to said electrode.

[c9] 9. A method of sensing an occupant in a seat as recited in claim 7, wherein said second electrode comprises a sheath at least partially around at least a portion of said heating element.

[c10] 10. A method of sensing an occupant in a seat as recited in claim 7, wherein said operation of operatively coupling said first signal comprises AC coupling.

[c11] 11. A method of sensing an occupant in a seat as recited in claim 7, wherein said operation of operatively coupling said second signal comprises AC coupling.

- [c12] 12. A method of sensing an occupant in a seat as recited in claim 7, further comprising controlling the actuation of a safety restraint system responsive to said response to said first signal.
- [c13] 13. An occupant sensor for sensing an occupant in a seat, wherein said seat incorporates a conductive heating element, said occupant sensor comprising:
- a) a first electrode located between said heating element and a seating region of said seat;
 - b) a second electrode located between said heating element and said first electrode;
 - c) a first signal operatively coupled to said first electrode; and
 - d) a second signal operatively coupled to said second electrode, wherein said first signal is an oscillating or pulsed signal, and said second signal is substantially equal to said first signal.
- [c14] 14. An occupant sensor for sensing an occupant in a seat as recited in claim 13, further comprising an electrode located proximate to a side of said heating element away from the seating region of said seat, wherein said second signal is operatively coupled to said electrode.
- [c15] 15. An occupant sensor for sensing an occupant in a seat

as recited in claim 13, wherein said second electrode comprises a sheath at least partially around at least a portion of said heating element.

[c16] 16. An occupant sensor for sensing an occupant in a seat as recited in claim 13, further comprising at least one first capacitor by which said first signal is operatively coupled.

[c17] 17. An occupant sensor for sensing an occupant in a seat as recited in claim 13, further comprising at least one second capacitor by which said second signal is operatively coupled.

[c18] 18. An occupant sensor for sensing an occupant in a seat as recited in claim 13, further comprising a means for sensing the occupant from a response to said first signal.

[c19] 19. An occupant sensor for sensing an occupant in a seat as recited in claim 13, further comprising a means for controlling the actuation of a safety restraint system responsive to said first signal.